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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,390	06/28/2007	Daniel J. Graney	4981A	6718

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EXAMINER	
HIGGINS, GERARD T	
ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
05/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,390	GRANEY ET AL.	
	Examiner	Art Unit	
	GERARD T. HIGGINS	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/22/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Applicants identify PCT/US2004/025436 as an application to which they are claiming foreign priority under 35 U.S.C. 119; however, this appears to be incorrect as that international application is the parent application to which this US application claims benefit as a national stage entry under 35 U.S.C. 371. This objection can be overcome by deleting the reference to PCT/US2004/025436 as a “prior foreign application” and filing a new oath or declaration. The Examiner notes that the pending Application still gains the benefit of the August 06, 2004 Application date, since the pending Application has been clearly noted as a 371 of PCT/US2004/025436. Therefore, notation of PCT/US2004/025436 as a "foreign priority document" appears to be both redundant and improper.

Drawings

2. The drawings are objected to because in Figures 5-12 the layers “PPMA" appears to be misspelled. The Examiner will interpret the layers as being “PMMA.” Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because the phrase "wherein alternate of the layers comprise a first polymer and the remaining layers comprise a second polymer" is awkward. The Examiner interprets this to be "comprising alternating layers of a first polymer and a second polymer." Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

a. On page 3, lines 8-9 the phrase "wherein alternate of the layers comprise a first polymer and the remaining layers comprise a second polymer" is awkward. The Examiner interprets this to be "comprising alternating layers of a first polymer and a second polymer."

b. For Formulas (I) through (IX) please place the appropriate Roman numeral next to the structure in parenthesis.

Appropriate correction is required.

Claim Objections

5. Claims 1-5 are objected to because of the following informalities:

a. In claim 1, the phrase "wherein alternate of the layers comprise a first polymer and the remaining layers comprise a second polymer" is awkward. The Examiner interprets this to be "comprising alternating layers of a first polymer and a second polymer."

b. In claim 2, please change the dye compounds to be singular tense so as to agree with the singular "organic pigment" and the tense in claims 3-5, i.e. the Examiner interprets the phrase as "said inorganic pigment is selected from the group consisting of a phthalocyanine, a perylene, a quinacridone, and an azo compound."

c. In claims 3-5 please place the appropriate Roman numeral next to the structure in parenthesis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, the term "substantially parallel" in claim 1 is a relative term which renders the claim indefinite. The term "substantially parallel" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner looked to applicants' specification to find the definition of this term; however, the specification definition also has relative terms, which do not provide a clear definition to the claim. The Examiner will interpret any prior art laminate-type structure as having "substantially parallel layers" as claimed.

With further regard to claims 1-9, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "colored iridescent film" in claims 1-9 is used by the claim to mean "a colored iridescent film that

upon exposure to butyl acetate remains colored and iridescent" (see page 6, lines 1-2 of applicants' specification), while the accepted meaning is "any film that is colored and iridescent." The term is indefinite because the claims are not drawn to a film immersed in a solution of butyl acetate, and it is also unclear if this definition by applicants is an accepted definition in the art. The Examiner interprets the limitation "colored iridescent film" as any colored iridescent film.

Claim 8 recites the limitations "said core outer layers" and "said core inner layers" in the second and third lines of the claims. There is insufficient antecedent basis for these limitations in the claim. The claim is also indefinite because claim 1 is open to any core comprising two layers, whereas it is unclear whether claim 8 can possess two layers and also possess inner layers and outer layers as claimed. The Examiner interprets the claim as "wherein said core comprises at least core outer layers and core inner layers located therebetween, and wherein the thickness of the core outer layers is greater than the thickness of the core inner layers".

Claim Rejections - 35 USC § 103

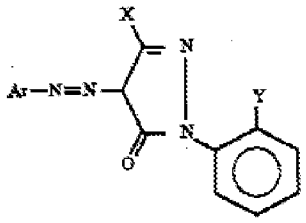
7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-3, 6, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (WO 99/36478) in view of Hays (5,669,967) as evidenced by Shetty et al. (5,837,359).

With regard to claim 1-3, Ouderkirk et al. discloses color shifting film glitter, which reads on applicants' colored iridescent film (Abstract). The color shifting film is comprised of alternating layers of a first and second polymeric material (page 2, line 28 to page 3, line 5). Ouderkirk et al. suggest on page 20, lines 25-30 that the color shifting film glitter may have tinted coatings; however, they do not disclose that at least one of the alternating polymeric layers contains an organic pigment.

Hays discloses an azo compound of the following formula (Abstract).



The formula reads on applicants' formula (I) of claim 3. The substituents overlap between the claim and the prior art, including the aromatic moiety "Ar." The azo dye form can be converted to a pigment form by laking with a divalent metal salt (col. 5, lines 38-50). The pigment compositions can be incorporated into thermoplastic and thermosetting materials (col. 6 lines 10-23).

Since Ouderkirk et al. and Hays are both drawn to plastic compositions; it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine in the azo pigment of Hays into the polymeric layers of the color

shifting film of Ouderkirk et al. The results of such a combination would have been predictable to one having ordinary skill; further, each of the elements would have performed the same in combination as they had separately. The motivation to use these azo pigments can be found at col. 6, lines 3-5, where Hays states that the pigments provide improved color strength, heat stability, and are useful as colorants in plastics. Additionally, as evidenced by Shetty et al., one of ordinary skill would understand that pigments can be incorporated into these multi-layered alternating polymeric iridescent films to provide both color and luster (col. 2, lines 30-37).

Although the Examiner is not reading into the claim that a "colored iridescent film" is a film that remains colored and iridescent upon exposure to butyl acetate (see section 6 above), the Examiner deems that the resultant film combination will intrinsically remain colored and iridescent upon exposure to butyl acetate because the azo pigment is the same and the combination of polymers may be the same, i.e. PET/PMMA (page 19, lines 6-17).

With regard to claims 6 and 7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the azo pigment of Hays into any of the alternating polymeric layers, including at least one inner layer or at least one outer layer as claimed, in order to adjust the luster and coloration of the color shifting film to create the most attractive and intriguing appearance for the resulting glitter.

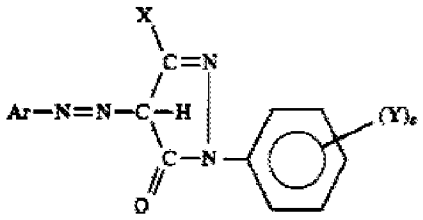
With regard to claim 9, Ouderkirk et al. disclose that the color shifting films may be made into glitter (page 20, lines 1-16).

With regard to claim 10, Ouderkirk et al. disclose that the glitter may be incorporated into a fingernail polish, which reads on applicants' nail lacquer (page 27, lines 3-7).

9. Claims 1, 2, 4, 6, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (WO 99/36478) in view of Hays (5,746,821) as evidenced by Shetty et al. (5,837,359).

With regard to claim 1, 2, and 4, Ouderkirk et al. discloses color shifting film glitter, which reads on applicants' colored iridescent film (Abstract). The color shifting film is comprised of alternating layers of a first and second polymeric material (page 2, line 28 to page 3, line 5). Ouderkirk et al. suggest on page 20, lines 25-30 that the color shifting film glitter may have tinted coatings; however, they do not disclose that at least one of the alternating polymeric layers contains an organic pigment.

Hays discloses an azo compound of the following formula (Abstract).



The formula reads on applicants' formula (II) of claim 4. The substituents overlap between the claim and the prior art, including the aromatic moiety "Ar." The azo dye form can be converted to a pigment form by laking with a divalent metal salt (col. 5,

lines 22-34). The pigment compositions can be incorporated into thermoplastic and thermosetting materials (col. 5 line 62 to col. 6, line 8).

Since Ouderkirk et al. and Hays are both drawn to plastic compositions; it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine in the azo pigment of Hays into the polymeric layers of the color shifting film of Ouderkirk et al. The results of such a combination would have been predictable to one having ordinary skill; further, each of the elements would have performed the same in combination as they had separately. The motivation to sue these azo pigments can be found at col. 5, lines 54-57, where Hays states that the pigments provide improved color strength, heat stability, and are useful as colorants in plastics. Additionally, as evidenced by Shetty et al., one of ordinary skill would understand that pigments can be incorporated into these multi-layered alternating polymeric iridescent films to provide both color and luster (col. 2, lines 30-37).

Although the Examiner is not reading into the claim that a “colored iridescent film” is a film that remains colored and iridescent upon exposure to butyl acetate (see section 6 above), the Examiner deems that the resultant film combination will intrinsically remain colored and iridescent upon exposure to butyl acetate because the azo pigment is the same and the combination of polymers may be the same, i.e. PET/PMMA (page 19, lines 6-17).

With regard to claims 6 and 7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the azo pigment of Hays into any of the alternating polymeric layers, including at least one inner layer or at least

one outer layer as claimed, in order to adjust the luster and coloration of the color shifting film to create the most attractive and intriguing appearance for the resulting glitter.

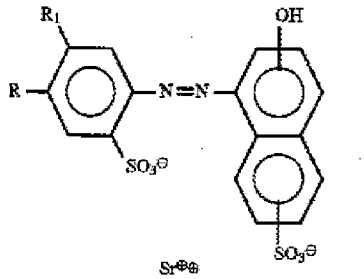
With regard to claim 9, Ouderkirk et al. disclose that the color shifting films may be made into glitter (page 20, lines 1-16).

With regard to claim 10, Ouderkirk et al. disclose that the glitter may be incorporated into a fingernail polish, which reads on applicants' nail lacquer (page 27, lines 3-7).

10. Claims 1, 2, 5-7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (WO 99/36478) in view of Bindra (5,677,435) as evidenced by Shetty et al. (5,837,359).

With regard to claim 1, 2, and 5, Ouderkirk et al. discloses color shifting film glitter, which reads on applicants' colored iridescent film (Abstract). The color shifting film is comprised of alternating layers of a first and second polymeric material (page 2, line 28 to page 3, line 5). Ouderkirk et al. suggest on page 20, lines 25-30 that the color shifting film glitter may have tinted coatings; however, they do not disclose that at least one of the alternating polymeric layers contains an organic pigment.

Bindra discloses an azo compound of the following formula (Abstract).



The formula reads on applicants' formula (III) of claim 5. The substituents overlap between the claim and the prior art. The azo dye form can be converted to a pigment form by laking with a divalent metal salt (col. 4, lines 10-19). The pigment compositions can be incorporated into thermoplastic and thermosetting materials (col. 4 lines 46-59).

Since Ouderkirk et al. and Bindra are both drawn to plastic compositions; it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine in the azo pigment of Bindra into the polymeric layers of the color shifting film of Ouderkirk et al. The results of such a combination would have been predictable to one having ordinary skill; further, each of the elements would have performed the same in combination as they had separately. The motivation to sue these azo pigments can be found at col. 4, lines 38-41, where Bindra states that the pigments provide improved color strength, heat stability, and are useful as colorants in plastics. Additionally, as evidenced by Shetty et al., one of ordinary skill would understand that pigments can be incorporated into these multi-layered alternating polymeric iridescent films to provide both color and luster (col. 2, lines 30-37).

Although the Examiner is not reading into the claim that a "colored iridescent film" is a film that remains colored and iridescent upon exposure to butyl acetate (see section

6 above), the Examiner deems that the resultant film combination will intrinsically remain colored and iridescent upon exposure to butyl acetate because the azo pigment is the same and the combination of polymers may be the same, i.e. PET/PMMA (page 19, lines 6-17).

With regard to claims 6 and 7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the azo pigment of Hays into any of the alternating polymeric layers, including at least one inner layer or at least one outer layer as claimed, in order to adjust the luster and coloration of the color shifting film to create the most attractive and intriguing appearance for the resulting glitter.

With regard to claim 9, Ouderkirk et al. disclose that the color shifting films may be made into glitter (page 20, lines 1-16).

With regard to claim 10, Ouderkirk et al. disclose that the glitter may be incorporated into a fingernail polish, which reads on applicants' nail lacquer (page 27, lines 3-7).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (WO 99/36478) in view of Hays (5,669,967) as evidenced by Shetty et al. (5,837,359) as applied to claim 1 above, and further in view of Shetty et al. (5,451,449).

Ouderkirk et al. in view of Hays as evidenced by Shetty et al. '359 render obvious all of the limitations of applicants' claim 1 in section 8 above; however, they do not

specifically disclose that the thickness of one of the outer layers is greater than the thickness of an inner layer.

Shetty et al. '449 disclose that it is known in multilayered iridescent films comprising alternating polymeric material layers to have the outermost layer to be thicker than an inner layer (col. 3, lines 52-59). The purpose behind this is to have a thick skin layer that presumably will be more durable.

Since Ouderkirk et al. in view of Hays and Shetty et al. '449 are drawn to multilayered iridescent films; it would have been obvious to one having ordinary skill in the art at the time the invention was made to make an outer layer of the multilayered laminate to be thicker than an inner layer as claimed. The purpose is to vary the optical properties of the iridescent film as recognized by Ouderkirk et al. at page 8, lines 11-18 or to produce a thicker skin layer that would be more durable as recognized by Shetty et al. '449 at col. 3, lines 52-59.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (WO 99/36478) in view of Hays (5,746,821) as evidenced by Shetty et al. (5,837,359) as applied to claim 1 above, and further in view of Shetty et al. (5,451,449).

Ouderkirk et al. in view of Hays as evidenced by Shetty et al. '359 render obvious all of the limitations of applicants' claim 1 in section 9 above; however, they do not specifically disclose that the thickness of one of the outer layers is greater than the thickness of an inner layer.

Shetty et al. '449 disclose that it is known in multilayered iridescent films comprising alternating polymeric material layers to have the outermost layer to be thicker than an inner layer (col. 3, lines 52-59). The purpose behind this is to have a thick skin layer that presumably will be more durable.

Since Ouderkirk et al. in view of Hays and Shetty et al. '449 are drawn to multilayered iridescent films; it would have been obvious to one having ordinary skill in the art at the time the invention was made to make an outer layer of the multilayered laminate to be thicker than an inner layer as claimed. The purpose is to vary the optical properties of the iridescent film as recognized by Ouderkirk et al. at page 8, lines 11-18 or to produce a thicker skin layer that would be more durable as recognized by Shetty et al. '449 at col. 3, lines 52-59.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (WO 99/36478) in view of Bindra (5,677,435) as evidenced by Shetty et al. (5,837,359) as applied to claim 1 above, and further in view of Shetty et al. (5,451,449).

Ouderkirk et al. in view of Bindra as evidenced by Shetty et al. '359 render obvious all of the limitations of applicants' claim 1 in section 10 above; however, they do not specifically disclose that the thickness of one of the outer layers is greater than the thickness of an inner layer.

Shetty et al. '449 disclose that it is known in multilayered iridescent films comprising alternating polymeric material layers to have the outermost layer to be

thicker than an inner layer (col. 3, lines 52-59). The purpose behind this is to have a thick skin layer that presumably will be more durable.

Since Ouderkirk et al. in view of Bindra and Shetty et al. '449 are drawn to multilayered iridescent films; it would have been obvious to one having ordinary skill in the art at the time the invention was made to make an outer layer of the multilayered laminate to be thicker than an inner layer as claimed. The purpose to vary the thickness this way is to vary the optical properties of the iridescent film as recognized by Ouderkirk et al. at page 8, lines 11-18 or to produce a thicker skin layer that would be more durable as recognized by Shetty et al. '449 at col. 3, lines 52-59.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner has cited US 6,207,260 assigned to 3M, and directs applicants' attention to col. 20, lines 31-41, which states that pigments may be incorporated into any layer of an optical body.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-Th 10am-8pm est. (Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Bernatz, acting SPE for Carol Chaney, can be reached on 571-272-

1505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M Bernatz/
Acting SPE of Art Unit 1794
May 8, 2009

GERARD T. HIGGINS
Examiner
Art Unit 1794

/G. T. H./
Examiner, Art Unit 1794